Chapter 32 - Exterior Protection

3201 Perimeter Security Measures

A. Perimeter protection is the first line of defense in providing physical security for a facility. This can be accomplished by installing fences or other physical barriers, outside lighting, lockable gates, intrusion detectors, or a guard force. Perimeter protection also includes walls, lockable doors and windows, bars and grilles, fire escapes, and signage.

B. In addition to defining the physical limits of a facility and controlling access, a perimeter barrier also creates a physical and psychological deterrent to unauthorized entry. It delays intrusion into an area, making the possibility of detection and apprehension more likely. It aids security forces in controlling access and assists in directing the flow of persons and vehicles through designated entrances.

C. Every vulnerable point should be protected to deter or prevent unauthorized access to the facility. The roof, basement, and walls of a building may contain vulnerable points of potential entry. A security survey of the perimeter shall address manholes and tunnels, grates leading to the basement, elevator shafts, ventilation openings, skylights, and any opening 96 square inches/.061 square meters or larger which is within 18 feet/5.5 meters off the ground.

D. Security and safety signage will be employed at departmental facilities in accordance with mission needs and local municipal ordinances to serve as a notice to the public and a warning to intruders that the area is restricted and/or controlled. Multi-lingual signage will be used in local areas where it is customary.

E. The facility manager, in consultation with the servicing security officer, determines the extent of perimeter controls based on a comprehensive security survey. The survey report should define the requirements for perimeter and other controls necessary to adequately protect the facility.

F. Applicable local fire codes will be included in the security survey. Security measures will comply with local fire and life safety codes. Any deviation from this policy based on claim of sovereignty of the Federal Government will need approval by the Director for Security.

G. The facility manager, the servicing security officer, and the Office of Security will maintain security surveys conducted at each departmental facility. When equipment is available, surveys will be video taped. This provides a record in case of an accident, fire, or hostile incident.

3202 Fencing

A. Fences are the most common perimeter barrier or control. Two types normally used are chain link and barbed wire. The choice is dependent primarily upon the degree of permanence of the facility and local ordinances. A perimeter fence should be continuous, kept free of plant growth, and maintained in good condition.

1. **Chain Link.** Chain link fencing should be laid out in a straight line to permit unhampered observation. It should be constructed of No. 11 gauge or heavier wire mesh (2 inches/5.08 cm square) and should be not less than seven feet or 2.13 meters high and have a top guard. It should extend to within two inches/5.08cm of firm ground. It should be taut and securely fastened to rigid metal posts set in concrete. Anti-erosion measures like surface priming may be necessary. Where a fence traverses culverts, troughs, or other openings larger than 96 square inches or .061 square meters in area, the openings should be protected by fencing, iron grilles, or other barriers to prevent passage of intruders without impeding drainage. Chain link fencing is low in maintenance cost, a minimal safety hazard, and has openings small enough to discourage the passage of pilfered articles. A three-foot "clear" buffer should be maintained on both sides of the fence. This buffer should be kept clear of anything that could interfere with a clear line-of-sight down the fence line.

2. **Barbed Wire.** Standard barbed wire is twisted, double strand, No. 12 gauge wire, with four-point barbs spaced four inches or 10.16 cm apart. Barbed wire fencing, including gates intended to prevent trespassing, should be no less than seven feet or 2.13 meters in height plus a top guard, tightly stretched, and should be firmly affixed to posts not more than six feet or 1.82 meters apart. Distances between strands should not exceed six inches or 15.24 cm.

B. Other perimeter barriers include the following devices.

1. **Concertina Wire.** Concertina wire was developed for the purpose of maiming people who attempt to breach a perimeter. Concertina wire will be used only in severe circumstances requiring extreme responses due to localized conditions. Concertina wire will not be used to protect departmental facilities unless approved by the Director of Security.

2. **Top Guard.** A top guard is an overhang of barbed wire along the top of a fence, facing inward/outward and upward at an angle of 45 degrees. Three or four strands of barbed wire spaced six inches or 15.24 cm apart are used, but the length of the supporting arms and the number of strands can be increased when required. The supporting arms should be affixed to the top of the fence posts and be of sufficient height to increase the overall height of the fence at least one foot or 30.48 cm. Where a building of less than three stories is used to form a part of the perimeter, a top guard should be used along the outside wall to deter access to the roof.

3203 Gates

A. A gate provides a break in a perimeter fence or wall to allow entry. Gates are secured by locks, guarded by intermittent guard patrols or fixed guard posts, protected by intrusion alarms, or closed circuit television (CCTV) or by a combination of these systems. The number of gates and perimeter entrances shall be limited to those absolutely necessary. The main design consideration is to accommodate the peak flow of pedestrian and vehicular traffic.

B. Gates should be adequately lighted. Lighting requirements for gates must be coordinated with other security measures. Lighting is critical if CCTV cameras are used to monitor the gate. Gates shall be locked when not staffed and periodically inspected by a roving guard force. Utility openings in a fence that do not serve as gates should be locked, guarded, or protected by a roving patrol.

C. Intrusion detection and access control devices may be desirable when the gate is used intermittently or when a higher level of protection is desired. Access is granted by coded cards, electronic key pads, keys, or biometric systems.

3204 Protective Lighting

Protective lighting is a valuable and inexpensive deterrent to crime. It improves visibility for checking badges and people at entrances, inspecting vehicles, preventing illegal entry, and detecting intruders both inside and outside buildings. If CCTV is employed to secure exterior or interior space, the lighting has to be engineered for the application. The type of lighting (e.g. low-pressure sodium, halogen, etc.) has to be selected. Environmental factors include background, pole locations, mounting, and climatology. Protective lighting should be located where it will overlap and illuminate shadowed areas and be directed at probable courses of intrusion. If justified, emergency power for lighting backup should be provided.

3205 Perimeter Intrusion Detection

Protecting the perimeter of a facility that houses expensive equipment, sensitive operations, or classified information may require intrusion detection devices. Chapter 33, Interior Protection, provides detailed guidance on intrusion detection systems and equipment that can be used for perimeter security applications.

3206 Doors

A. Doors are prime vulnerable points in the security of any building. A door must be installed so the hinges are on the inside to preclude removal of the screws or the use of chisels or cutting devices. Pins in exterior hinges should be welded, flanged, or otherwise secured. Hinge dowels between the hinge plates and the frame and the hinge plates and the inside door edge should be used to preclude the door's removal. The door should be metal or solid wood. If a wooden door does not have a solid core construction or contains panels less than 1.375 inch or 3.49 cm thick, it should be covered on the inside with at least 16-gauge sheet steel attached with screws to provide additional protection. Life safety codes, both national and local, where applicable, must be observed. Intrusion detection systems will be employed to protect vulnerable areas if life safety issues arise. Transoms should be sealed permanently or locked from the inside with a sturdy sliding bolt lock or other similar device or be equipped with bars or grilles. To prevent the spread of fire, transoms should be covered with a solid sheet of wood or metal. When necessary, managers should refer to national and local fire and life safety codes to apply the appropriate standard.

B. Rolling overhead doors not controlled or locked by electric power should be protected by slide bolts on the bottom bar. Chain link doors should be provided with a cast iron keeper and pin for securing the hand chain, and the operating shaft on a crank operated door should be secured. A solid overhead, swinging, sliding, or accordion-type garage door should be secured with a cylinder lock or padlock. Also, a metal slide bar, bolt, or crossbar should be provided on the inside. Metal accordion grate or grille-type doors should have a secured metal guide track at the top and bottom and be secured with a cylinder lock or padlock.

3207 Windows

A. Windows are also vulnerable points for gaining access to a building. Windows should be secured on the inside using a lock, locking bolt, slide bar, or crossbar with a padlock. The window frame must be securely fastened to the building so that it cannot be pried loose. As with glass panels in a door, window glass can be broken or cut so the intruder can reach inside and release the lock. If a window is not needed for ventilation, glass block will provide maximum security while permitting light to pass. Life safety codes must be observed if a window could possibly be used as an escape route.

B. Bars or steel grilles can be used to protect a window. They should be at least one-half inch or 1.27 cm in diameter, round, and spaced not more than five inches or 12.7 cm apart. If a grille is used, the material should be No. 9 gauge, two inches or 5.08 cm square mesh. Outside hinges on a window should have non-removable pins. The hinge pins should be welded, flanged, or otherwise

secured so they cannot be removed. Bars or grilles must be securely fastened to the window frame so they cannot be pried loose.

3208 Manholes, Grates, and Storm Drains

Many facilities have manholes and tunnels providing service entrances into buildings. Other manholes may provide an entrance to tunnels containing pipes for heat, gas, water, and telephone. If a tunnel penetrates the interior of a building, the manhole cover must be secured. A chain and padlock can be used to secure a manhole. Steel grates and doors flush with the ground level may provide convenient access. These openings may be designed into the facility as service entrances or outside elevator entrances or they may provide light and ventilation to the basement level. If the frame is properly secured, the grates or doors can be welded into place or they can be secured with a chain and padlock. Bolting or spot welding should secure sewers or storm drains that may provide an entrance.

3209 Roof Openings

Openings in elevators, penthouses, hatchways, or doors to roofs are often overlooked because of infrequent use. Skylights are another source of entry from roofs. These openings can be protected like windows with bars or mesh. Such protection should be installed inside the openings to make it more difficult to remove.

3210 Shafts, Vents, and Ducts

Ventilation shafts, vents, or ducts and openings in the building to accommodate ventilating fans or the air conditioning system can be used to enter a facility. A ventilation fan can be removed or the blade bent to make a sufficiently large opening for entry. Bars are recommended to deter such access. Screens are generally considered less desirable than bars because screens may interfere with the airflow.

3211 Fire Escapes and Building Walls

A. Normally, outside fire escapes do not provide an entrance directly into the building; however, they can provide easy access to the roof or openings high above the ground level. Windows or other openings off the fire escape should be restricted to being opened only from the inside. The fire escape should be a minimum of 12 feet from the ground and/or grade.

B. Walls are not normally considered possible points of entry because of their usual solid construction; however, they cannot be disregarded because intruders may be able to break through them to gain entrance. Reinforcement at critical points may be necessary to deter forced entry.

3212 Facilities in Remote Locations

Large facilities located in sparsely inhabited areas have an inherent form of protection by virtue of their isolation. Constructing a fence around the perimeter usually will provide an adequate deterrent to entry. Occasional observation by a roving guard force may be necessary depending on the sensitivity of the facility. CCTV systems can be especially helpful if guard forces are available to monitor them.

3213 Signage

Warning signs or notices shall be posted to deter trespassing on government property. Signs shall be plainly displayed and be legible from any approach to the perimeter from a reasonable distance. The size and coloring of such signs, lettering thereon, and interval of posting must be appropriate to each situation. Refer to 41 CFR Subpart 101-20.3, Conduct on Federal Property.

A. Control Signs. Signs should be erected where necessary to assist in control of authorized entry, to deter unauthorized entry, and to preclude inadvertent entry. Persons in or on Department of Commerce property shall at all times comply with signs of a prohibitory, regulatory, or directory nature and with the lawful direction of security guards or other authorized individuals.

B. Other Signs.

1. **Condition of Entry.** Signs setting forth the conditions of entry to an installation or area should be plainly posted at all principal entrances and should be legible under normal conditions at a distance not less than 50 feet from the point of entry. Such signs should inform the entrant that packages, briefcases, and other containers in the immediate possession of visitors, employees, or other persons arriving on, working at, visiting, or departing from Department of Commerce property, are subject to inspection. A full search of a person and any vehicle driven or occupied by the person may accompany an arrest if necessary.

2. **Restricted Areas.** Signs or notices legibly setting forth the designation of restricted areas and conditions of entry should be plainly posted at all entrances and at other points along the perimeter as necessary.

3. **Explosives.** Signs or notices must clearly indicate that no person entering or while on Department of Commerce property shall carry or possess explosives, or items intended to be used to fabricate explosives or incendiary devices, either openly or concealed, except for official purposes.

4. **Weapons Prohibited.** Section 930 of Title 18 of the U.S. Code prohibits possession of a firearm or other dangerous weapon in Federal facilities, unless authorized by law, and defines "dangerous weapons" as a weapon, device, instrument, material, or substance, animate or inanimate, that is used for, or is readily capable of, causing serious bodily injury or death.